Extraction and Characterization of Chitin and Chitosan from Fishery Waste

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Abstract—*After cellulose, chitin is the most widespread biopolymer available in nature. Chitin has economic value because of its biological activities, industrial and biomedical applications. There are three sources of chitin, namely crustaceans shell, insects and cell walls of microorganism (fungi). The commercial sources of chitin are shells of crustaceans such as shrimp, crabs, lobsters and krill. However, it is not widely used for industrial application up to now because it is insoluble in many solvents, relatively difficult to isolate from natural sources in pure from and to prepare in a reproducible way under good economic condition. The obtained chitin and chitosan have been characterized by using different techniques like spectral analysis, X-ray diffraction, Elemental analysis; Fourier transforms infrared spectroscopy (FTIR), Scanning electron microscopy (SEM) and Differential scanning calorimetry (DSC). In this research mainly the focused on the synthesis of chitosan which is suitable for the pharmaceutical industry especially in the designing delayed and controlled drug delivery systems. The main study focused on preparation low molecular weight of the chitosan suitable for pharmaceutical industry. This review summarizes some of the important developments related to extraction of chitin, chitosan and their derivatives.*

Keywords*: Fishery waste, Chitin, Chitosan, Characterization.*